UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,413	09/10/2003	**Anthony Amir Tanbakuchi**	DALSA-0002	3178

72992 7590 11/07/2008

Fisher Technology Law
40452 Hickory Ridge Place
Aldie, VA 20105

EXAMINER	
CARTER, AARON W	
ART UNIT	**PAPER NUMBER**
2624	

MAIL DATE	DELIVERY MODE
11/07/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/658,413	TANBAKUCHI, ANTHONY AMIR	
	Examiner	Art Unit	
	AARON W. CARTER	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) *35-46* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to papers filed on 7/7/08.

Election/Restrictions

2. Applicant's election without traverse of Group I, claims 1-34 in the reply filed on 7/7/08 is acknowledged.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Section IV.C, reads as follows (see also MPEP 2106):

> While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be. In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of nature itself.
>
> For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. Diehr, 450 U.S. at 187, 209 USPQ at 8 ("application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection."); Benson, 409 U.S. at 71, 175 USPQ at 676 (rejecting formula claim because it "has no substantial practical application").
>
> To satisfy section 101 requirements, the claim must be for a practical application of the Sec. 101 judicial exception, which can be identified in various ways:
>
> > The claimed invention "transforms" an article or physical object to a different state or thing.
> >
> > The claimed invention otherwise produces a useful, concrete and tangible result, based on the factors discussed below.

4. Claims 1-34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 1, 15 and 25 recite the mere manipulation of data or an abstract idea, or merely solve a mathematical problem without a limitation to a practical application. A practical application exists if the *result* of the claimed invention is "useful, concrete and tangible" (with the emphasis on "result")(Guidelines, section IV.C.2.b). A "useful" result is one that satisfies the utility requirement of section 101, a "concrete" result is one that is "repeatable" or "predictable", and a "tangible" result is one that is "real", or has "real-world" value, as opposed to being "abstract" (Guidelines, section IV.C.2.b)). Claims 1, 15 and 25 merely manipulate data without ever producing a useful, concrete and tangible result. The claims manipulate pixel data to generate a first and second color as the result and do not have a practical application.

It is the result that is the focus. If the result has a real world practical application/use, then the test has been satisfied. The claim need not include the uses to which the result is ultimately put, just the result itself. Applicant is advised to provide a written explanation of how and why the claimed invention (either as currently recited or as amended) produces a useful, concrete and tangible result.

5. Claims 1-14 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an

article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101" – publicly available at USPTO.GOV, "memorandum to examining corp"). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. In order for a process to be "tied" to another statutory category, the structure of another statutory category should be positively recited in a step or steps significant to the basic inventive concept, and NOT just in association with statements of intended use or purpose, insignificant pre or post solution activity, or implicitly.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitations "adjacent pixel values of the first color" in line 5 and "adjacent pixel of the second color" in line 8, are vague and indefinite. It is unclear if the limitation is referring to pixels adjacent to the first pixel having the first/second color or

something else. Claims 15 and 25 have similar limitations to those of claim 1 and are rejected for the same reasons stated above for claim 1.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-5, 8, 10, 11, 13-18, 21, 23, 25-28, 31 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,674,903 to Cliquet.

As to claim 1, a method comprising a first process for a first pixel and a second process for the first pixel, wherein:

The first process includes extracting a first kernel from a multi-color matrix (*column 8, line 4 – column 9, line 20 and column 12, lines 23-46, wherein for a first color component matrix of a first pixel, a first kernel in one of several directions is extracted*), generating first variance weights from the first kernel (*column 9, line 20 – column 10, line 10, wherein the gradients are determined in the each direction corresponding to the first variance weights*), and generating a first color based on the first variance weights and adjacent pixel values of the first color (*column*

10, lines 10-32 and column 12, lines 23-46, wherein the new pixel value corresponding to a first color is determined based on the gradients determined in each direction and pixels adjacent to the current pixel or first pixel and this can be done for each color component Red, Green and Blue of the first pixel); and

The second process includes extracting a second kernel from the multi-color matrix (*column 8, line 4 – column 9, line 20 and column 12, lines 23-46, wherein for a second color component matrix of the first pixel, a first kernel in one of several directions is extracted*), generating second variance offsets from the second kernel (*column 9, line 20 – column 10, line 10, wherein the gradients are determined in each direction corresponding to the second variance offsets*), and generating a second color based on the second variance offsets and an adjacent pixel of the second color (*column 10, lines 10-32 and column 12, lines 23-46, wherein the new pixel value corresponding to a second color is determined based on the gradients determined in each direction and pixels adjacent to the current pixel or first pixel*).

As to claim 2, Cliquet discloses the method of claim 1, further comprising a third process for a second pixel, wherein the third process includes extracting a third kernel from the multi-color matrix (*column 8, line 4 – column 9, line 20 and column 12, lines 23-46, wherein for a color component matrix of a second pixel in the electronic image, a first kernel in one of several directions is extracted*), generating third variance offsets from the third kernel (*column 9, line 20 – column 10, line 10, wherein the gradients are determined in the each direction corresponding to the third variance offsets*), and generating a third color based on the third variance offsets and an adjacent pixel of the third color (*column 10, lines 10-32 and column 12, lines 23-46, wherein*

the new pixel value corresponding to a third color is determined based on the gradients determined in each direction and pixels adjacent to the current pixel or second pixel).

As to claim 3, Cliquet discloses the method of claim 1, wherein the first kernel is a 5x5 matrix and the second kernel is a 3x3 matrix (*column 6, lines 58-67, wherein kernels may have a matrix size of 3x3 or 5x5*).

As to claim 4, Cliquet discloses the method of claim 1, wherein generating the first variance weights includes determining horizontal and vertical gradient value averages (*column 9, line 20 – column 10, line 10, wherein the gradient value averages are determined in the each of several directions including the horizontal and vertical directions*).

As to claim 5, Cliquet discloses the method of claim 4, wherein:

The first kernel includes first and second side pixels of the first color (Fig. 1);

Determining the horizontal gradient value average includes determining a horizontal gradient value and calculating an average of the horizontal gradient value and at least one more horizontal gradient value (*column 9, lines 35-39, wherein* S^H_1 *and* S^H_2 *correspond to gradient averages for first and second side pixels*); and

Determining the horizontal gradient value includes calculating an absolute value of a difference between a value of the first side pixel and a value of the second side pixel (*column 9, lines 35-39, wherein gradH correspond to the horizontal gradient value*).

As to claim 8, Cliquet discloses the method of claim 1, wherein generating the second variance offsets includes determining gradients between pixels of the first color and determining gradient values corresponding to the gradients (*column 9, line 20 – column 10, line 10*).

As to claim 10, Cliquet discloses the method of claim 2, wherein the first kernel is a 5x5 matrix, the second kernel is a 3x3 matrix, and the third kernel is a 3x3 matrix (*column 6, lines 58-67, wherein kernels may have a matrix size of 3x3 or 5x5*).

As to claim 11, Cliquet discloses the method of claim 1, wherein generating the third variance offsets includes determining gradients between pixels of the first color and determining gradient values corresponding to the gradients (*column 9, line 20 – column 10, line 10*).

As to claim 13, Cliquet discloses the method of claim 2, wherein the multi-color matrix is a Bayer matrix, and the first color is green (*column 12, lines 23-46*).

As to claim 14, Cliquet discloses the method of claim 13, wherein the second color is blue and the third color is red (*column 12, lines 23-46*).

As to claim 15, please refer to the rejection of claim 1 above.

As to claim 16, please refer to the rejection of claim 2 above.

As to claim 17, please refer to the rejection of claim 4 above.

As to claim 18, please refer to the rejection of claim 5 above.

As to claim 21, please refer to the rejection of claim 8 above.

As to claim 23, please refer to the rejection of claim 11 above.

As to claim 25, please refer to the rejection of claim 1 above.

As to claim 26, please refer to the rejection of claim 2 above.

As to claim 27, please refer to the rejection of claim 4 above.

As to claim 28, please refer to the rejection of claim 5 above.

As to claim 31, please refer to the rejection of claim 8 above.

As to claim 33, please refer to the rejection of claim 11 above.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2002/0031257 to Kato discloses an image processing method.

US 2002/0136463 to Akahori et al. discloses an image processing method.

US 2002/0141654 to Rosales discloses an image processing method.

US 2003/0002747 to Zaklika et al. discloses an image processing method.

US 20050047675 to Walmsley et al. discloses an image processing method.

US 2005/0220360 to Zaklika et al. discloses an image processing method.

US 2007/0053585 to Xiao et al. discloses an image processing method.

USPN 5,699,167 to Nozaki et al. discloses an image processing method.

USPN 6,078,686 to Kim discloses an image processing method.

USPN 6,487,304 to Szeliski discloses an image processing method.

USPN 6,535,632 to Park et al. discloses an image processing method.

USPN 6,721,458 to Ancin discloses an image processing method.

USPN 6,798,910 to Wilson discloses an image processing method.

USPN 6,823,086 to Dolazza discloses an image processing method.

USPN 6,956,582 to Tidwell discloses an image processing method.

USPN 7,027,637 to Fang et al. discloses an image processing method.

USPN 7,145,693 to Kagawa discloses an image processing method.

USPN 7,231,084 to Tang et al. discloses an image processing method.

USPN 7,272,265 to Kouri et al. discloses an image processing method.

USPN 7,409,084 to Jung discloses an image processing method.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON W. CARTER whose telephone number is (571)272-7445. The examiner can normally be reached on 8am - 4:30 am (Mon. - Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron W Carter/
Primary Examiner, Art Unit 2624